IN THE CLAIMS:

Without prejudice or disclaimer, please amend claims 1-20 as follows:

1. (amended) For use with a liquid chromatography setup that includes a chromatographic column through which a mobile phase having at least one component passes as eluent for analysis by a post-column detector, a post-column analysis system to increase elution time of chromatographic peaks associated with detection by said post-column detector, the post-column analysis system including:

~~(a)~~ a micro switching valve unit having an input port coupleable to be in fluid communication with said eluent, said micro switching valve unit being switchable between a first position in which said eluent flows at a first flow rate to said post-column detector, and a second position in which eluent flow through said chromatographic column is halted and ~~in which~~ a portion of said eluent within a region of said micro switching valve unit flows to said post-column detector at a second flow rate that is ~~to said post-column detector, said second flow rate being~~ substantially slower than said first flow rate;

~~(b)~~ a secondary pump system, coupleable to a portion of said micro switching valve unit, and operable to contribute to establish said second flow rate when said micro switching valve unit is in said second position;

wherein when said micro switching valve unit is in said second position, said secondary pump system pumps a portion of said eluent retained in a portion of said micro switching valve unit to said post-column detector such that individual detection peaks are input more slowly to said post-column detector.

2. (amended) The post-column analysis system of claim 1, further including a control unit coupled to said post-column detector, said control unit outputting a signal causing said micro switching valve unit to switch from said first position to said second position when a detection peak is sensed by said post-column detector, and causing said micro switching valve unit to return to said first position from said second position when ~~a~~ said detection peak ends;

said control unit further coupled to said secondary pump to control flow rate thereof as a function of whether said micro switching valve unit is in said first position or is in said second position.

3. (amended) The post-column analysis system of claim 2, wherein:

said liquid chromatography setup include a primary pre-column pump; and

said control unit is coupled to cause ~~causes~~ said primary pre-column pump to produce a slower flow rate when said micro switching valve unit is in said second position.

4. (amended) The post-column analysis system of claim 1, wherein:

said secondary pump system includes a syringe pump; and

said second flow rate is about 10% to about 50% of said first flow rate.

5. (amended) The post-column analysis system of claim 1, wherein said liquid chromatography setup is selected from a group consisting of (a) a capillary liquid chromatography setup, and (b) a nano liquid chromatography setup.

6. (amended) The post-column analysis system of claim 1, wherein when said ~~micro-valve~~ micro switching valve unit is in said second position, said micro-valve unit and said secondary pump system contribute to a substantially constant pressure in said chromatographic column.

7. (amended) The post-column analysis system of claim 1, wherein said micro-valve unit has an internal volume less than about 5 µl; ~~wherein dead volume for said system is reduced~~.

8. (amended) The post-column analysis system of claim 1, wherein:

said first flow rate has a value in a range of about 50 nl/minute to about 400 nl/minute; and

said second flow rate has a value in a range of about 5 nl/minute to about 50 nl/minute.

9. (amended) The post-column analysis system of claim 1, wherein said post-column detector includes at least one of (a) a mass spectrometer, and (b) a nuclear resonance detector.

10. (amended) The post-column analysis system of claim 1, wherein said liquid chromatography set-up includes pre-column flow splitting enabling delivery of microflow and nanoflow over said chromatographic column ~~and enabling delivery of nanoflow over said column~~.

11. (amended) The post-column analysis system of claim 1, wherein when said ~~micro-valve~~ micro valve unit is in said second position, gradient composition is maintained substantially constant, and when said micro-valve unit is in said first position, said gradient composition is maintained.

12. (amended) The post-column analysis system of claim 1, wherein:

in said second position said ~~micro-valve~~ micro valve unit halts chromatographic process by blocking outflow from said column;

and in said second position, inlet flow rate to said chromatographic column is reduced by about 50% to about 80% using a pre-column split.

13. (amended) For use with a liquid chromatography setup having a chromatographic column through which a mobile phase passes as eluent for analysis by a post-column detector, a post-column analysis system to increase elution time of chromatographic peaks associated with detection by said detector, the post-column analysis system including:

means for selectively passing eluent flow from said chromatographic column to said post-column detector in a normal ~~but~~ mode, and for halting eluent flow from said chromatographic column in a peak parking mode during which a portion of eluent is fluid coupled to said post-column detector;

means for substantially reducing flow rate during said peak parking mode relative to flow rate during said normal mode; and

means, coupled to said post-column detector, for selecting whether said post-column analysis system shall operate in said normal mode or in said peak parking mode.

14. (amended) The post-column analysis system of claim 13, wherein said means for selectively passing and halting includes a micro switching valve unit having a plurality of two-way valves and a plurality of ports between adjacent ones of said two-way valves.

15. (amended) The post-column analysis system of claim 13, wherein said means for ~~producing a~~ substantially reducing ~~reduced flow rate~~ includes a micro syringe pump that in peak parking mode produces a flow rate of about 10% to about 50% of a flow rate present during said normal mode.

16. (amended) The post-column analysis system of claim 13, wherein at least one of said means for selectively passing and halting and said means for substantially reducing ~~producing~~ contribute to a substantially constant pressure over said chromatographic column during said peak parking mode.

17. (amended) The post-column analysis system of claim 13, wherein at least one of said means for selectively passing and halting and said means for substantially reducing ~~producing~~ contribute to a substantially constant gradient composition during said peak parking mode.

18. (amended) A method for use with a liquid chromatography setup having a chromatographic column through which a mobile phase passes as eluent for analysis by a post-column detector to increase elution time of chromatographic peaks associated with said detector, the method including the following steps:

(a) selectively passing eluent flow from said chromatographic column to said post-column detector in normal mode, and halting eluent flow from said chromatographic column in a peak parking mode;

(b) fluid coupling a portion of said eluent to said post-column detector in said peak parking mode;

(c) producing a substantially reduced flow rate of delivery of said eluent to said post-column detector during said peak parking mode; and

(d) operating said liquid chromatographic setup ~~system~~ in peak parking mode when a peak is detected by said post-column detector, and operating said liquid chromatographic setup ~~system~~ in normal mode otherwise.

19. (amended) The method of claim 18, wherein step (c) results in a flow rate during peak parking mode of about 10% to about 50% of ~~a~~ flow rate present during said normal mode.

20. (amended) The method of claim 18, further including maintaining a substantially constant pressure over said chromatographic column during said peak parking mode.